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To Laurie Peterson Wright	From Paul Pigeon	
Co./Dept.	Co.	
Phone # 8553	Phone # 5611	
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INFORMAL MEMORANDUM

DATE: June 28, 1995

TO: Peg Witherill, Program Manager
Operable Unit 7, Present Landfill

FROM: John Rampe, Team Lead JR
ER Projects Team

SUBJECT: Review of Preliminary Draft Phase I IM/IRA Decision Document for Present Landfill, Operable Unit No. 7

I had Paul Pigeon of ER Projects Team and Roger Kennedy of the Engineering Division in AMPME review the Preliminary Draft Phase I IM/IRA Decision Document for Present Landfill, Operable Unit No. 7. The comments presented are those which represent major concerns for presentation of the IM/IRA Decision Document to the regulatory agencies. Additional concerns related to presentation approach and wording of the document have been withheld, per your request. The report section, and where applicable the page number, which each comment addresses, are listed before the comment text.

1. Section 2.1 -- Although not formally part of OU 7, IHSS's 166.1, 166.2 and 166.3 (sludge pits) to the northeast of the landfill proper should be described as they are part of the response plan. (Note: these IHSS's are presumed part of the plan because we discussed them in project meetings as a potential contamination source and they appear to be in the area impacted by the closure/response action on some of the drawings; see further comment No. 5 below.)

2. Section 2.5.1, last bullet on page 2-24 -- Although not a change for this version of the Decision Document, you should be aware that the contractor is basing the contaminants of concern on only 1 out of 4 rounds of Phase II monitoring well data (January, February and March, 1995 rounds data are apparently not yet available to the project team). There is thus some possibility that the PCOCs analysis, the down-gradient ground-water risk assessment, and the evaluation of remedial objectives could change when those data are incorporated into the analyses.

3. Section 3.4.1.2 -- In early March, 1995, AMPME compared the concentrations of PCOCs in the East Landfill Pond with the State Surface Water Quality Standards for Segment 4 of the Dry Creek Basin. Standards used in the comparison were supplied by EG&G's Surface Water Group as "up to date" and applicable to the pond as a surface water body downstream of the Site runoff control ponds (A, B, and C series. That comparison (see attached Table 1) showed exceedances of what we believe to be potential ARARs for OU 7, but the Decision Document indicates that the pond water meets potential ARARs.

4. Section 3.5.2, page 3-32 -- It is important to indicate that standard burners for vented landfill gas will be installed "if required as a condition of the Air Permit negotiated with the Air Quality Control Division of CDPHE." These burners would add to cost and necessitate utility installations that could impact the cap design. We would want to negotiate on the trade-off of VOC for carbon monoxide emissions that burning of this "dirty" gas would produce, and also provide an assessment of the potential maximum VOC concentration in ambient air that unburned gas would cause at an agreed compliance boundary of OU 7 or the Site, before committing to the added expenditure.

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5. General to Chapters 5, 6, 7, and 8 -- The boundaries of the cap and closure work are not consistently depicted in relation to the IHSS's 166.1, 166.2 and 166.3 (sludge pits). Some of the hand-detailed figures (e.g., 6-2 and 8-1) appear to exclude these IHSS's from the cap area and indicate no regrading, while the CAD-produced figures (5-2 and 7-2) appear to include the sludge pits within a regraded area but do not show the IHSS boundaries. Is any part of the plan directed at the sludge pit IHSS's? If so, they should be discussed in these chapters and shown on the figures.

6. Section 7.2.3, Figure 7-5 -- The detail section of cover layers does not indicate a layer to prevent rodent intrusion, such as large rocks. Is such a layer appropriate?

7. Section 8.1.3 -- The numbers on maximum inventory at closure do not add up. The total expected at closure is 540,000 CY, which is stated to be the total of present fill volume, 415,000 CY, plus 12,000 CY per year (plus 30% interim cover) for two years until closure in 1997, which only totals to 446,200 CY.

We are forwarding these comments directly to EG&G to help expedite production of the final draft IM/IRA Decision Document. Please call me at 6246 or Paul Pigeon at 5611 with any follow-up questions or clarifications on these comments.

CC: Paul Pigeon, RTG
Roger Kennedy, RTG
Laurie Peterson-Wright, EG&G

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TABLE 1 (1 of 3)
SEGMENT 4 WATER QUALITY STANDARDS
AND
EAST LANDFILL POND WATER QUALITY

	Water Quality Parameters (mg/l unless noted)	PCOC RI Tech Memo	State Surface Water Standard(1)	Type of Standard	East Landfill Pond Quality Station SW098 (11) Average	Maximum
	Total Metals					
	Arsenic (TR) (1-day)	√	50	Drinking Water Supply	2	10
	Beryllium (TR) (30-day)		4	Drinking Water Supply		
	Cadmium (TR) (1-day)		5	Drinking Water Supply (2) (P)		
	Chromium III (TR) (1-day)		50	Drinking Water Supply		
	Iron (TR) (chronic)		1,000	Aquatic Life		
*	Manganese (TR) (chronic)	√	1,000	Aquatic Life	101	430
	Mercury (T) (chronic)		0.01	Aquatic Life		
	Selenium (TR) (chronic)		10	(3)		
*	Thallium (TR) (30-day)	√	0.5	Drinking Water Supply (2) (P)	3	10
	Zinc (TR) (30-day)		2,000	Agriculture		
	Dissolved Metals					
	Arsenic (acute/chronic)	√	360/150	Aquatic Life (4)	2	10
	Cadmium (acute/chronic)		15/1.5	Aquatic Life (5)		
	Chromium VI (ac/ch)		16/11	Aquatic Life		
	Copper (acute/chronic)		25/16	Aquatic Life (5)		
	Iron (30-day)		300	Drinking Water Supply (S)		
	Lead (acute/chronic)		171/6.5	Aquatic Life (5)		
*	Manganese (30-day)	√	* 50	Drinking Water Supply (S)	63	250
	Nickel (acute/chronic)	√	1,210/125	Aquatic Life (5)	10	40
	Silver (acute/chronic)		3.8/0.6 (10)	Aquatic Life (5) (10)		
	Zinc (acute/chronic)		158/144	Aquatic Life (5)		

TABLE 1 (2 of 3)
SEGMENT 4 WATER QUALITY STANDARDS
AND
EAST LANDFILL POND WATER QUALITY

	Water Quality Parameters (µg/l unless noted)	PCOC RI Tech Memo	State Surface Water Standard(1)	Type of Standard	East Landfill Pond Quality Station SW098 (11) Average	Maximum
	Radionuclides (pCi/l)					
X	Americium-241	√	0.05	Human Health	0.011	0.075
	Gross Alpha	√	11	Human Health	2	5
	Gross Beta	√	19	Human Health	12	16
	Plutonium-239/240		0.05	Human Health		
	Strontium-89,90	√	8	Human Health	1.4	1.9
	Tritium	√	500	Human Health	143	258
	Uranium-233,234 & -238	√	10	Human Health	0.1/1.1	0.3/2
	Volatile Organics (12)					
	Acetone	√	-- (6)	RfD Ingestion (6)	5	58
	Methylene Chloride	√	4.7	Human Health Based(WS,WF)	3	8
	Vinyl Acetate	√	--	No Standard	9	80
	Semi-Volatile Organics (12)					
X	Bis (2-ethylhexyl) phthalate	√	1.8	Human Health Based (WF)	5	11
	Di-n-butyl phthalate	√	--	No Standard (7)	5	11
	Pentachlorophenol		1.0/0.28 (8)	Human Health Based(WS/WF)		
	Pyrene		0.0028	Human Health Based (WF) (9)		

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TABLE 1 (3 of 3)
FOOTNOTES

(1) Standards applicable to Segment 4 of Big Dry Creek Subbasin, Tributaries and mainstems of Walnut and Woman Creeks from RFETS terminal ponds to Great Western Reservoir and Standley Lake. Numbers separated by a slash (X/Y) are the acute and chronic standards.

(2) Not in the Segment 4 specific standards, but is a Federal and State drinking water standard. Letters are P for primary standard and S for secondary standard.

(3) Segment 4 standard for selenium does not match any of the Table III value standards (TVS), but is the same as the former Federal primary drinking water standard. Current drinking water standard is 50 µg/l.

(4) Not in Segment 4 specific standards, but is a PCOC and has aquatic life TVS.

(5) Aquatic life standards are based upon an equation which uses the Hardness of the water as a variable. EG&G uses 143 mg/l as $CaCO_3$ for the Segment 4 hardness.

(6) No standard exists, but surface water criterion used in Colorado discharge permits is 1 mg/l based on a Reference Dose (RfD) and ingestion via drinking water supply.

(7) Listed in "Basic Standards for Organic Chemicals", but without a numeric limit.

(8) Aquatic Life Based criteria are also listed in "Basic Standards for Organic Chemicals", but are higher than Human Health Based.

(9) Standard is from Table 1A, Site-Specific Organic Chemical Standards, Segments 2, 3, 4, and 5, Big Dry Creek, whereas the Basic Standard is 960 µg/l.

(10) Chronic standard was deferred to 1998 by action of the Colorado Water Quality Control Commission.

(11) Source: Table 4-20, "Technical Memotandum, Volume I - Sections 1-8, Revised Work Plan, Operable Unit No. 7 - Present Landfill", May 23, 1994.

(12) Only PCOCs shown; many more organics have Segment 4 and State-wide standards.

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